UNITED STATES ARMY GARRISON - HEIDELBERG
HAZARDOUS WASTE MANAGEMENT PLAN

FINAL REPORT

June 2005

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APPROVALS

This Hazardous Waste Management Plan (HWMP) addresses management requirements specific to current and planned waste generation and disposal activities in the U.S. Army Garrison - Heidelberg.

This HWMP satisfies the requirement to develop and maintain a hazardous waste management plan contained in Section C6.3.1.2.1 of Chapter 6 (Hazardous Waste) of the Final Governing Standards (FGS) for Germany. This HWMP must be reviewed and updated at least once every 5 years.

Prepared By:

_____ 17 June 2005

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Chief of Staff
U.S. Army Garrison – Heidelberg

U.S. ARMY GARRISON - HEIDELBERG HAZARDOUS WASTE MANAGEMENT PLAN

RECORD OF REVISIONS

This HWMP must be reviewed and updated at least once every 5 years in accordance with Chapter 6, Section C6.3.1.2.1.1 of the FGS for Germany. To fulfill this requirement, the following table is provided for tracking revisions to this plan.

Revision No.	Date	Name and Title	Signature	Pages Affected
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LIST OF ACRONYMS

AAFES	Army and Air Force Exchange Service
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road
AR	Army Regulation
ASG	Area Support Group
AST	Aboveground Storage Tank
BImSchG	Federal Emissions Control Act *(Bundes-Immissionsschutzgesetz)*
CHPPM-EUR	Center for Health Promotion and Preventive Medicine – Europe
DIN	German Institute for Standardization *(Deutsches Institut für Normung)*
DoD	Department of Defense
DOT	Department of Transportation
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMSI	Defense Reutilization and Marketing Service International
DSN	Defense Switched Network
ECO	Environmental Compliance Officer
ED	Environmental Division
EWC	European Waste Catalogue
FGS	Final Governing Standards
FY	Fiscal Year
HM	Hazardous Material(s)
HN	Host Nation
HW	Hazardous Waste(s)
HWAP	Hazardous Waste Accumulation Point
HWMP	Hazardous Waste Management Plan
HWPS	Hazardous Waste Profile Sheet(s)
HWSA	Hazardous Waste Storage Area
MSDS	Material Safety Data Sheet
MWR	Morale, Welfare, and Recreation
N/A	Not Applicable
NCOIC	Non-Commissioned Officer in Charge
OEBGD	Overseas Environmental Baseline Guidance Document
POC	Point of Contact
POL	Petroleum, Oil, and Lubricant
SMT	*Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung*
UST	Underground Storage Tank
WGK	Water Hazard Class *(Wassergefährdungsklasse)*

1 INTRODUCTION

This Hazardous Waste Management Plan (HWMP) has been developed for the U.S. Army Garrison - Heidelberg's current and planned hazardous waste generation and disposal activities. The Environmental Division (ED) for the U.S. Army Garrison - Heidelberg is responsible for development, maintenance, and implementation of this HWMP.

The purpose of a HWMP is to outline policies and procedures for proper handling, storage, and disposal of hazardous waste. This HWMP satisfies the requirement to develop and maintain a Waste Management Plan and a Waste Registry contained in Section C6.3.1.2 of Chapter 6 (Hazardous Waste) of the Final Governing Standards (FGS) for Germany. Chapter 6 of the FGS for Germany references Chapter 5 (Hazardous Materials) and Chapter 7 (Solid Waste). Copies of these chapters of the FGS for Germany, as well as Chapter 8 (Medical Waste), are included in Appendix 8.

The HWMP should be used in combination with the Garrison-specific Solid Waste Management Plan for effective overall management of waste generated by the U.S. Army Garrison - Heidelberg.

Table 1-1. HWMP Regulatory Cross Reference Matrix

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.1.1	Hazardous Waste Determination and Characterization	7.3	
C6.3.1.2	Waste Management Plan and Waste Registry	8	
C6.3.1.3	Identification Numbering	7.2	
C6.3.1.4	Transportation	5	
C6.3.1.5	Disposal Documentation	7.4 / 7.5	
C6.3.1.6	Audit Trail	7.4.1	
C6.3.1.7	Waste Identification Number	7.3	
C6.3.1.8	Hazardous Waste Profile Sheet (HWPS)	7.3	
C6.3.2.1	Design of Hazardous Waste Accumulation Points (HWAPs)	3.2	
C6.3.2.2	Storage Limitations for HWAPs	3.2	
C6.3.2.3	Management of Containers at HWAPs	3.1	
C6.3.2.4	Recordkeeping Requirements for HWAPs	7.1 / 7.4 / 7.5	
C6.3.2.5	Personnel Training for Managing HWAPs	4	
C6.3.3	Hazardous Waste Storage Areas (HWSA) – Technical Requirements	3.3	
C6.3.3.1	Duration of Waste Storage in HWSAs	3.3.1	
C6.3.3.2	Waste Analysis and Verification in HWSAs	3.3.2	
C6.3.3.3	Security in HWSAs	3.3.3	
C6.3.3.4	Communications and Alarm System Serving HWSAs	3.3.3	
C6.3.3.5	Required Equipment in HWSAs	3.3.3	

Table 1-1
HWMP Regulatory Cross Reference Matrix

(*continued*)

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.3.6	General Inspection Requirements	3.5	
C6.3.3.7	Storage Practices in HWSAs	3.3.1 / 3.1	
C6.3.3.8	Closure and Closure Plans for HWSAs	3.3.4	
C6.3.4.1	Container Handling and Storage	3.1	
C6.3.4.2	Rainwater Captured in Secondary Containment – Inspection and Testing Requirements	3.3.1	
C6.3.4.3	Special Requirements for Ignitable or Reactive Waste	3.1	
C6.3.4.4	Special Requirements for Incompatible Wastes	3.1	
C6.3.5.1	Recordkeeping – Internal Turn-in Documents	7.4.1	
C6.3.5.2	Recordkeeping – Hazardous Waste Log	7.1	
C6.3.5.3	Recordkeeping – Availability of Hazardous Waste Log	7.1	
C6.3.5.4	Recordkeeping – Inspection Logs	3.5 / 7.5	
C6.3.5.5	Recordkeeping – Manifests	7.4.4 / 7.5	
C6.3.5.6	Recordkeeping – Responsibility for Maintenance of Records	7.5	
C6.3.6	Contingency Plan	9	
C6.3.7.1	Inspection of Tank Systems	3.4 / 3.5	
C6.3.7.2	Response to Leaks or Spills and Disposition of Leaking or Unfit-For-Use Tank Systems	3.4	
C6.3.7.3	Spill Notification Procedures	3.4	
C6.3.7.4	Closure of Tank Systems	3.3.4	

Table 1-1
HWMP Regulatory Cross Reference Matrix

(*continued*)

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.8	Management of Used Oil and Batteries	3.6	
C6.3.9	Hazardous Waste Training	4	
C6.3.10	Technical Requirements for Hazardous Waste Disposal	6	
C6.3.11	Individual State Requirements for Tendering of Waste Requiring Special Supervision	6	
C6.3.12	Additional Requirements for the Transport of Hazardous Waste on Public Roads	5	
C6.3.13	Permitted Transportation and Disposal Companies	5	
C6.3.14	Appointment and Responsibilities of Waste Management Officer	2.1 / 2.4	
C6.3.15	Appointment and Responsibilities of Dangerous Goods Officer and Responsible Individuals	2.2 / 2.3 / 2.4	
C6.3.16	Provision of Statistical Information	N/A	
C6.3.17	Daily Removal of Hazardous Waste to HWAP or HWSA	3.2	

2 KEY PERSONNEL

This section details the Garrison's key personnel with regard to hazardous waste management. Table 2-2 in Section 2.4 is used to provide contact information for key personnel.

2.1 WASTE MANAGEMENT OFFICER *(BETRIEBSBEAUFTRAGTER FÜR ABFALL)*

A waste management officer must be assigned if specific activities as indicated in Table 2-1 occur in the Garrison. Table 2-1 identifies the general types of hazardous waste management facilities in the U.S. Army Garrison - Heidelberg.

Table 2-1. Hazardous Waste Facilities in the U.S. Army Garrison - Heidelberg

Hazardous Waste Activity/Facility	Yes	No
Hazardous Waste Storage Area	X	
Hazardous waste disposal area		X
Landfill		X
Incinerator		X
Hospital and/or clinic	X	
Chemical or physical treatment plant with a throughput of more than 0.5 metric tons (500 kg) per hour		X

Due to the hazardous waste management activities it performs, the U.S. Army Garrison - Heidelberg has appointed a Waste Management Officer *(Betriebsbeauftragter für Abfall)*. The Waste Management Officer's responsibilities are described in FGS for Germany, Chapter 7, Section C7.3.19.3. Contact information for this individual is provided in Table 2-2 in Section 2.4.

2.2 DANGEROUS GOODS ADVISOR *(GEFAHRGUTBEAUFTRAGTER)*

Hazardous wastes that are considered dangerous goods are transported off-post; therefore, the U.S. Army Garrison - Heidelberg has appointed a Dangerous Goods Advisor *(Gefahrgutbeauftragter)*. The Dangerous Goods Advisor's responsibilities are described in FGS for Germany, Chapter 5, Section C5.3.22. Contact information for this individual is provided in Table 2-2 in Section 2.4.

2.3 RESPONSIBLE INDIVIDUALS *(BEAUFTRAGTE PERSONEN)*

The Garrison performs transport of hazardous wastes that are considered dangerous goods. Therefore, the U.S. Army Garrison - Heidelberg has identified responsible individuals who 1) oversee transport of hazardous wastes that are considered dangerous goods; and 2) are authorized to give instructions. The Garrison's responsible individuals receive annual training. Contact information for

the responsible individuals and individual/organization providing training are provided in Table 2-2 in Section 2.4.

2.4 LISTING OF KEY PERSONNEL

The U.S. Army Garrison - Heidelberg's key personnel are listed in Table 2-2 (see next page). The contact information contained herein is updated, as appropriate, to reflect modifications to the Garrison's operations.

Table 2-2. Key Hazardous Waste Management Personnel – U.S. Army Garrison - Heidelberg

Position/Task	Unit/Activity	Name	Telephone Number	E-mail Address
ED Responsible for Hazardous Waste	DPW, ED	Mr. Albert Amberger	06221-4380-3142	Albert.amberger@us.army.mil
Waste Management Officer (Medical)	USAMH	Mr. Willie R. Peterson	06221-17-2893	Willie.peterson@us.army.mil
Dangerous Goods Advisor	USAREUR, ODCSLOG	To Be Determined by IMA-E		
Responsible Individuals	Unit (1)	HAZ11 / HAZ12 trained individual (1)		
Performance of Training	DPW, ED (2) Unit (3)	Mr. Al Amberger (2) NCOIC (3)	06221-4380-3142	Albert.amberger@us.army.mil
Maintenance of Training Records	DPW, ED (4) Unit (5)	Mr. Al Amberger (4) NCOIC (5)	06221-4380-3142	Albert.amberger@us.army.mil
Maintenance of Hazardous Waste Logs	Hazardous waste logs are updated weekly by the hazardous waste (HW) contractor and maintained at all locations where HW is picked up for disposal (i.e., HW Storage Areas [HWSAs] and HW Accumulation Points [HWAPs])			
Update of Hazardous Waste Profile Sheets (HWPS)	Mr. Al Amberger, Directorate of Public Works (DPW), ED, develops, updates, and maintains copies of the HWPS. Additional copies of the HWPS are maintained by the Environmental Compliance Officers of HW-generating activities.			
Waste Management Plan and Waste Registry	DPW, ED	Mr. Al Amberger	06221-4380-3142	Albert.amberger@us.army.mil
Maintenance of Disposal Records/Log book	DPW, ED (6) AAFES	Mr. Al Amberger (6) Mr. Roy Miller	06221-4380-3142 06221-24900	Albert.amberger@us.army.mil MillerR@aafes.com

1) Each unit that performs transport of hazardous substances has assigned at least one individual that is HAZ11/HAZ12 trained with the duties of a responsible individual.
2) USAREUR provides Environmental Awareness Training (OSHA/RCRA) and the Garrison provides specific HW management training
3) Training of individuals within the units handling hazardous waste.
4) A copy of the records for the General Environmental Awareness Training is maintained in the Environmental Division.
5) Records of training performed by the units are maintained by the individuals receiving the training.
6) All hazardous waste generators not having the same DoD-internal hazardous waste generator number (i.e., AAFES) maintain their own disposal records.

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3 STORAGE AND ACCUMULATION

The U.S. Army Garrison - Heidelberg operates 38 hazardous waste accumulation points (HWAPs) and 5 hazardous waste storage areas (HWSAs). The DRMO Hazardous Waste Removal Contractor is primarily responsible for the setup and maintenance of the HWAPs and the HWSAs, although individual Environmental Compliance Officers (ECOs) are assigned responsibility for assisting with hazardous waste handling. Appendix 1 contains maps that indicate where storage areas are located throughout the Garrison. Appendix 2 contains a list of the active HWAPs and HWSAs located throughout the Garrison, as well as the associated ECO for each. The following pages detail the hazardous waste management and storage operations at the Garrison.

3.1 CONTAINERS

Container requirements apply to both the general storage practices and container labeling. The container requirements listed below are followed at the U.S. Army Garrison - Heidelberg. Known exceptions to these requirements (if any) are identified in Appendix 7, the Hazardous Waste Management Compliance Plan.

- Containers used to collect hazardous wastes at HWAPs and HWSAs are approved in accordance with The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). (FGS for Germany, Chapter 6, C6.3.2 and C6.3.3)
- Containers are kept in the closed position at all times, unless adding or removing waste. (FGS for Germany, Chapter 6, C6.3.4.1.1.1)
- Containers are stored and handled in a manner that prevents rupturing or leaking. (FGS for Germany, Chapter 6, C6.3.4.1.1.2)
- Containers used for storage of flammable liquids are grounded during the transfer from one container into another. (FGS for Germany, Chapter 6, C6.3.4.1.1.3)
- Hazardous waste containers are labeled with the waste classification number according to the European Waste Catalogue. (FGS for Germany, Chapter 6, C6.3.4.2.1.1)
- Containers are labeled with the appropriate hazard symbol *(Gefahrensymbol)* and hazard definition *(Gefahrenbezeichnung).* (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.1)
- Container labels include the required R and S Phrases as appropriate. (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.1)
- Container labels meet the minimum size requirements as specified in Table 3-1. The hazard symbol must measure at least one tenth of the entire label, and have an area of at least 1 square centimeter. (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.4)

Table 3-1. Recommended Container Label Sizes

Container/Package Volume (in liters)	Recommended Label Size (in millimeters)
< 3	52 x 74
3-50	74 x 105
50-500	105 x 148
> 500	148 x 210

- Containers used to store carcinogenic or mutagenic substances are specifically labeled with information about the substance or process that generated it. (FGS for Germany, Chapter 6, C6.3.4.1.2.1.2)
- Packaging of hazardous wastes is clearly labeled, not to be mistaken for foodstuffs or beverages, with the associated risks clearly recognizable. (FGS for Germany, Chapter 6, C6.3.4.1.2.1.3)
- Containers used to accumulate ignitable or reactive wastes are stored in an HWAP or HWSA that is at least 15 meters inside the installation's boundary. (FGS for Germany, Chapter 6, C6.3.4.3)
- Incompatible wastes (see Appendix 6 for guidelines) are stored in segregated containers and do not share secondary containment structures. Where necessary, incompatible wastes are physically separated using berms, dikes, walls, or other similar means. (FGS for Germany, Chapter 6, C6.3.4.4.1 and C6.3.4.4.3)
- Hazardous wastes are not placed in an unwashed container that previously held incompatible wastes. (FGS for Germany, Chapter 6, C6.3.4.4.2)

The hazardous waste contractor is responsible for providing appropriately labeled containers for the accumulation of hazardous waste. The fulfillment of this contract provision is verified by the ECOs during daily inspections. In addition, the ED responsible for hazardous waste (see Table 2-2) confirms this during spot-checks and inspections of HWSAs.

3.2 HAZARDOUS WASTE ACCUMULATION POINT (HWAP)

A HWAP is defined as a location where hazardous wastes are accumulated until they are removed to a HWSA or transported for treatment or disposal. The accumulation in an HWAP is limited to only one container per waste stream. If more than one container per waste stream is used for accumulation, the location is managed as an HWSA (see Section 3.3). There are no specific size limitations for the individual containers, but the containers must meet ADR requirements (i.e., containers must be ADR approved). An HWAP is located at or near the point of generation and under the control of the operator.

Locations of U.S. Army Garrison - Heidelberg HWAPs are indicated in the maps presented in Appendix 1. All HWAPs as listed in Table A-2.1 in Appendix 2 are operated in accordance with the following standards. Known exceptions to these standards (if any) are identified in the Appendix 7 Hazardous Waste Management Compliance Plan.

- A single container is provided for the collection of each waste stream. Chemically incompatible wastes are appropriately segregated. Sufficient room is left in containers storing liquid for the contents expand with increases in temperature. (FGS for Germany, Chapter 6, C6.3.2.1)
- Hazard signs appropriate for each type of waste are posted at each HWAP. Deficiencies are detailed in Appendix 7. (FGS for Germany, Chapter 6, C6.3.2.1, Chapter 5, C5.3.7.3 and C5.A4)
- Full containers are either moved to the HWSA or picked up by the contractor within five working days. (FGS for Germany, Chapter 6, C6.3.2.2)
- Turn-in documents are submitted to the appropriate authorities (e.g., Defense Reutilization and Marketing Office) to arrange the removal from the HWAP. (FGS for Germany, Chapter 6, C6.3.2.2)
- Turn-in documents, Hazardous Waste Logs, and hazardous waste manifests are maintained if the waste is directly shipped off-post from the HWAP. (FGS for Germany, Chapter 6, C6.3.2.4 and C6.3.5)
- Small amounts of hazardous waste that are generated daily are collected at the point of generation (i.e., in the shop bays) and are moved to or emptied into larger containers daily, at a designated HWAP or HWSA.

In addition to the above requirements, containers in HWAPs are handled in accordance with the provisions stated in Section 3.1.

3.3 HAZARDOUS WASTE STORAGE AREA (HWSA)

3.3.1 General Requirements

An HWSA is defined as one or more locations on a DoD installation where hazardous waste is collected and stored prior to shipment for treatment or disposal. HWSAs are operated to prevent contamination of water bodies or other detrimental effects. More than one ADR-approved container per waste stream may be accumulated at an HWSA.

A detailed survey of all HWSAs has been performed to determine which structures are considered ordinary or conventional facilities. All HWSAs within the garrison were determined to be ordinary or conventional facilities, except Bldg. 4500 at the Recycling Center at PHV. Table 3-2 is to be completed once the documentation on proper certification (Test of Suitability / Bauartzulassung) has been received from the German authorities for Bldg. 4500. These records shall be maintained in the ED. HWSAs that are classified as ordinary or conventional facilities are not required to be approved by the German authorities and do not need to be listed in Table 3-2.

Table 3-2. HWSAs approved by the German Authorities

ARLOC	Facility No.	Construction Approval (Yes/No)	Suitability Test (Yes/No)	Approving German Authority	Approval Date

Locations of U.S. Army Garrison - Heidelberg HWSAs are indicated in the maps presented in Appendix 1. The HWSAs listed in Table A-2.2 in Appendix 2 are operated in accordance with the following standards:

- Waste is not stored for more than one year in an HWSA. For that purpose, Hazardous Waste Logs are regularly checked for each HWSA to ensure that no waste is stored longer than 12 months. (FGS for Germany, Chapter 6, C6.3.3.1)
- Aisles in the HWSAs are a minimum of 1 meter in width. (FGS, Chapter 5, C5.3.2.1)
- No known sources of ignition are located or allowed in any HWSA. (FGS for Germany, Chapter 6, C6.3.3.7.1)
- "No Smoking" *(Rauchen verboten)* signs are posted in both English and German at HWSAs that are used for storage of flammable substances. The signs are clearly visible and legible. (FGS for Germany, Chapter 6, C6.3.3.7.1)
- Hazardous Waste Logs are maintained at the HWSA. (FGS for Germany, Chapter 6, C6.3.5.2)
- HWSAs that are used for storage of water endangering substances are not located in areas that are Water Protection Zones *(Wasserschutzgebiete)* I or II. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.1)
- HWSAs that are classified as a Water Hazard Category *(Gefährdungsstufe)* D facility are not located in areas designated as Water Protection Zone III. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.2)
- Secondary containment is provided for HWSAs that are classified as Water Hazard Category A, B, or C facilities and located in areas that are Water Protection Zone III. The secondary containment is designed to retain the volume of the largest container or 10 percent of the total storage volume, whichever is greater. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.2)
- Rainwater captured in secondary containment areas is inspected visually prior to release. If this inspection indicates a potential for contamination or if the nature of the hazardous waste

stored is such that this inspection is not acceptable, the potentially contaminated water is submitted for laboratory testing prior to release. (FGS for Germany, Chapter 6, C6.3.4.2)

- HWSAs are not located in areas prone to flooding, unless it is unavoidable to locate the HWSA in such an area. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.3)

In addition to the above requirements, containers in HWSAs are handled in accordance with the provisions stated in Section 3.1.

3.3.2 Waste Transfer

Hazardous Waste Profile Sheets (HWPS) are maintained for each waste type stored at each HWSA (FGS for Germany, Chapter 6, C6.3.1.8). Prior to accepting waste from another accumulation point, the HWSA manager performs the following actions, as appropriate:

- Inspects each shipment of waste to ensure the waste matches the description provided. (FGS for Germany, Chapter 6, C6.3.3.2.2.1)
- Rejects waste shipments for storage unless a HWPS is provided, or available and properly referenced. (FGS for Germany, Chapter 6, C6.3.3.2.2.2)
- Requests a new HWPS from the generating activity if there is reason to believe that the process generating the waste has changed. (FGS for Germany, Chapter 6, C6.3.3.2.2.3)
- Analyzes shipments of unknown waste type to provide a correct waste description on the accompanying documents. (FGS for Germany, Chapter 6, C6.3.3.2.2.4)
- Rejects shipments that do not match the internal accompanying waste descriptions unless the generating activity provides an accurate description. (FGS for Germany, Chapter 6, C6.3.3.2.2.5)

3.3.3 Security Systems

Security measures in place at each HWSA to prevent unauthorized entry are identified in Table 3-3. HWSAs must be operated in accordance with the standards identified below. Known exceptions to these requirements (if any) are identified in the Appendix 7 compliance plan.

- Signs must be posted in English and German with the words, “Danger Unauthorized Personnel Keep Out” *(“Gefahr. Zutritt für Unbefugte verboten.”)* at each HWSA. The signs should be visible from at least 7.5 meters and from every direction of approach to the HWSA (FGS for Germany, Chapter 6, C6.3.3.3.2).
- HWSAs must be equipped with an internal alarm system that is able to provide immediate emergency instructions either by voice or by signal to HWSA personnel. These systems should be immediately accessible to personnel actively involved in handling (e.g., pouring or mixing) of waste at the HWSA (FGS for Germany, Chapter 6, C6.3.3.4.1).
- HWSAs must be equipped with a means of summoning emergency personnel. This can be accomplished by the installation of either an intrinsically safe telephone or a hand-held two-way radio (FGS for Germany, Chapter 6, C6.3.3.4.2). The U.S. Army Garrison - Heidelberg ED strictly prohibits solitary work at HWSAs – all workers must use the "buddy system" when entering an HWSA.

Table 3-3. Security Systems at U.S. Army Garrison - Heidelberg HWSAs

ARLOC	Facility No.	Description of Security System
GE30J	7542	The HWSA is located within a controlled-access installation that is monitored 24-hours per day by guards at the main entrance.
GE34J	3994	The facility is locked at all times and can only be unlocked by the HWSA manager and the Garrison Fire Department.
GE35B	242	The CONEX is locked at all times and can only be opened by the Garrison Fire Department.

3.3.4 Closure

Closure plans must be prepared for all existing HWSAs. Additional closure plans for new HWSAs will be prepared during the HWSA planning stages including estimates of the storage capacity of hazardous waste, steps to be taken to remove or decontaminate all waste residue, and an estimate of the expected closure date.

HWSAs are closed in accordance with the closure plan for the specific site. HWSAs are inspected by a German recognized expert *(Sachverständiger)* prior to their closure. All hazardous waste and hazardous waste residues from the containment system are removed. This includes removing any remaining containers, liners, and bases. The closure is performed in a manner that minimizes and/or eliminates the need for future maintenance or the potential for future releases of hazardous waste.

At closure of a tank system, storage tanks are emptied and cleaned by a German certified company *(Fachbetrieb)* prior to it being inspected by a German certified expert *(zugelassener Sachverständiger)*. Hazardous waste residues, contaminated containment system components (liners, etc.), and contaminated soils are disposed of to the extent practicable.

3.4 TANK SYSTEMS

The following tank-specific actions are being or have been performed, according to regulatory requirements appropriate to Baden-Württemberg and Rheinland-Pfalz and the tank contents. Sections 1 and 2 in Appendix 3 detail the special requirements for Baden-Württemberg and Rheinland-Pfalz.

- Tank specifications, such as size, contents, and construction type, are clearly indicated on each above-ground storage tank (AST). (FGS for Germany, Chapter 5, C5.3.15.3.2.1.3)
- ASTs and tank farms storing flammable liquids outdoors are notified *(Anzeigepflicht)* to the competent German authorities as identified in the FGS for Germany, Chapter 5, C5.3.15.2.1, if warranted.

- All indoor storage areas containing storage tanks that require notification or a permit (see above) are equipped with ventilation and lighting. (FGS for Germany, Chapter 5, C5.3.15.3.2.2)
- For ASTs, the fill level is visible at all times from the exterior of tanks and tank containers (i.e., a container that may be used for storage and transportation and has a minimum volume of 450 liters). (FGS for Germany, Chapter 5, C5.3.15.3.2.1.2)
- Tank inspections are performed once each operating day, and include a review of operating systems, structural items, and nearby areas for releases. (FGS for Germany, Chapter 6, C6.3.7.1) Internal and external notifications of spills will be made in accordance with the U.S. Army Garrison - Heidelberg Spill Prevention and Response Plan. (FGS for Germany, Chapter 6, C6.3.7.3)
- Pressure monitoring is performed for all tanks with an internal positive pressure exceeding 0.1 bar. (FGS for Germany, Chapter 5, C5.3.15.3.2.1.4)
- Secondary containment is provided for aboveground Petroleum, Oil, and Lubricants (POL) storage tanks, as appropriate. (FGS for Germany, Chapter 5, C5.3.14.1.1.3 and Chapter 9, C9.3.9)
- "No Smoking" signs are posted in both English and German for tank system used for storage of flammable substances. The signs are clearly visible and legible. (FGS for Germany, Chapter 6, C6.3.3.7.1)

In addition to the above requirements, all requirements relating to water protection zones and areas prone to flooding as outlined in Section 3.3.1 also apply to tank systems storing hazardous waste.

3.5 INSPECTIONS

Tank systems that store water-endangering substances were inspected by an expert *(Sachverständiger)* prior to their initial use. Each tank system is also inspected every 5 years after the initial inspection during the facility's normal use (per FGS for Germany, Chapter 5, C5.3.14.2.1). In addition, all tanks are inspected at least once a month by DPW, Operations and Maintenance (O&M) personnel.

HWSAs must be inspected by an expert prior to their initial use and every 5 years thereafter (per FGS for Germany, Chapter 5, C5.3.14.2.1). Known exceptions to these inspection requirements (if any) are identified in the Appendix 7 compliance plan. Additionally, expert inspections must be conducted under the conditions listed below.

- When significant modifications are made (FGS for Germany, Chapter 5, C5.3.14.2.1.1);
- If the competent German authority issues an inspection request due to a suspected threat to water bodies (FGS for Germany, Chapter 5, C5.3.14.2.1.2);
- After decommissioning a facility (FGS for Germany, Chapter 5, C5.3.14.2.1.2);
- After the re-commissioning or re-opening of a facility that has been closed for more than 1 year (FGS for Germany, Chapter 5, C5.3.14.2.1.2).

Any problems identified by the inspections are addressed appropriately. Problems that are imminently dangerous to human health and the environment (such as leaking containers) are remedied

immediately. Refer to the Garrison's Spill Prevention and Response Plan to identify areas that are prone to spills, such as loading and unloading areas.

Inspections of HWAPs and HWSAs in the U.S. Army Garrison - Heidelberg are performed on a weekly basis by the hazardous waste contractor *Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung* (SMT) and on a quarterly basis by the ED. Underground storage tanks (USTs) are inspected daily by the ECOs for leaks and filling levels. In addition, tanks and tank systems are inspected annually by DPW, Utilities Division. Records of the facility inspections performed by the ED and by SMT are maintained for at least 3 years at the ED, per FGS for Germany, Chapter 6, C6.3.3.6.5. Records of the facility inspections performed by the units are maintained by the ECOs. Records of tank inspections performed by the DPW, Utilities Division, are maintained at the Utilities Division.

3.6 USED OIL *(ALTÖL)* AND BATTERY MANAGEMENT

Used oil and battery management at the U.S. Army Garrison - Heidelberg is conducted in accordance with the following requirements:

- Used oil is only burned for energy recovery in a facility that is permitted by the competent German authority. (FGS for Germany, Chapter 6, C6.3.8.1)
- Hazardous waste or used oil is not used for dust suppression or road treatment. (FGS for Germany, Chapter 6, C6.3.8.2)
- Used oil that will be reprocessed is not mixed with other wastes or used oil. (FGS for Germany, Chapter 6, C6.3.8.4)
- Used oil is sampled and analyzed for PCBs and halogen content prior to reprocessing (FGS for Germany, Chapter 6, C6.3.8.3). This effort is included in the recycling contract for used oil and is thus performed by the contractor.
- Synthetic oils that contain PCBs or halogen-containing substitutes are collected, stored, and disposed separately from other used oils. (FGS for Germany, Chapter 6, C6.3.8.2)
- Used lead-acid batteries are managed as hazardous wastes, regardless of whether they will be recycled or permanently disposed. (FGS for Germany, Chapter 6, C6.3.8.4)

4 TRAINING

All personnel who are involved in handling, storage, and disposal of hazardous waste receive appropriate training before assuming work duties involving exposure to hazardous waste. Written operating instructions are available to all employees working with hazardous waste prior to initiating work. All personnel performing hazardous waste duties complete annual refresher training.

Training is performed by qualified personnel. Contact information is provided in Table 2-2 in Section 2.4. The training program includes sufficient information to enable personnel to perform their assigned tasks while complying with hazardous waste requirements. Personnel are instructed in the following key areas:

- Emergency procedures: response to fire/explosion/spills; use of communications/alarm systems; body and equipment clean-up.
- Safe use of hazardous waste equipment: drum/container handling/storage; proper sampling procedures.
- Employee Protection: Personal Protective Equipment (PPE), safety and health hazards, hazard communication, worker exposure.
- Recordkeeping, security, inspections, contingency plans, storage requirements, transportation requirements.

Training courses, attendees, and dates of completion must be documented for all units, and the hazardous waste personnel training records must be retained for at least 3 years after the termination of these personnel. Information on where the training records are maintained and who is in charge is contained in Table 2-2 in Section 2.4.

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5 TRANSPORTATION

5.1 OFF-POST TRANSPORTATION PROCEDURES

Off-post hazardous waste transport is only performed by the DPW Fire Department. Personnel transporting hazardous waste off-post are part of the Emergency Response Team and have received ADR training. Hazardous waste transporting vehicles are accompanied by a DoD turn-in document, DD Form 1348-1A (See Appendix 5).

All other off-post transportation is performed by permitted transportation companies. Defense Reutilization and Marketing Service International (DRMSI) has verified that contractors used at the U.S. Army Garrison - Heidelberg are permitted for hazardous waste transportation.

5.2 ON-POST TRANSPORTATION PROCEDURES

The transportation of hazardous waste on-post is prohibited unless coordinated with the ED. Upon approval the following procedures aply:

- Hazardous waste is only transported by trained personnel who have the proper transportation vehicles and equipment. Each unit has an individual that is HAZ11 trained which meets Department of Transportation (DOT) and ADR training requirements.
- Vehicles are in good repair, have sufficient stable storage space, have enough available weight capacity, and provisions to secure loads.
- The appropriate material handling equipment is used to load, transport, and unload containers. This equipment includes drum handling equipment and pallets. Drums are not rolled on or off vehicles.
- Loads are properly placed on vehicles. Hazardous waste containers are placed in stable positions. The containers are not placed such that they overhang, perch, or lean.
- Loads are secured with straps, clamps, braces, or other measures to prevent movement and loss. Forklifts are not used to transport drums and containers that are not secured.

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6 DISPOSAL

The U.S. Army Garrison - Heidelberg contracts hazardous waste disposal services through the Defense Reutilization and Marketing Office (DRMO) located at Coleman Barracks, Mannheim. The hazardous waste contractor currently used for collection and disposal of the main portion of hazardous waste generated is *Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung* (SMT), located in Hessheim in the State of Rheinland-Pfalz. SMT also disposes of laboratory wastes from Mark Twain Village High School and Patrick Henry Village Middle School by incineration through a separate contract not managed by DRMSI.

The U.S. Army Garrison - Heidelberg recycles and reuses hazardous waste to the maximum extent practical. Waste oil is recycled through the contractor *F.K.M. Buster A&R GmbH* in Mannheim. Plastics, metals, oil-contaminated rags, and oil-filters are incinerated and thermally recycled. Lead-acid batteries are recycled through a separate contract with *Hans Schmidt GmbH&Co*. located in Fürth.

Waste minimization efforts include bulk dispensing of oil at the Speedy Lube at Patton Barracks, Building 3854, and the use of biodegradable hydraulic oil versus conventional hydraulic fluids at the golf course.

SMT tenders *(andienen)* waste requiring special supervision to the *Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH* (SAM). SAM is the central state agency *(Zentrale Stelle für Sonderabfälle)* for the State of Rheinland-Pfalz, in which SMT is located. This procedure is also in accordance with the specific waste disposal regulations of Baden-Württemberg, because generators of wastes requiring special supervision are exempt from tendering to the central state agency of Baden-Württemberg if the waste is collected by certified third parties or private waste contractors.

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7 DOCUMENTATION

According to German law and the FGS for Germany, hazardous waste management and disposal includes an audit trail from the point of hazardous waste generation to ultimate disposal. (FGS for Germany, Chapter 6, C6.3.1.6.1) The following sections detail the documentation performed by the U.S. Army Garrison - Heidelberg.

7.1 HAZARDOUS WASTE LOG

A written log is maintained at all locations where hazardous waste is picked up for off-site shipment (i.e., HWSAs and HWAPs) to record all hazardous waste handled. (FGS for Germany, Chapter 6, C6.3.5.2)

Contact information for the individuals in charge of maintaining hazardous waste logs at HWSAs and HWAPs is provided in Table 2-2 in Section 2.4. Hazardous waste logs are available to emergency personnel in the event of a fire or spill, because they are located at the hazardous waste storage facilities. In addition, the Garrison Fire Department has been provided with an inventory for each HWSA and HWAP.

The hazardous waste logs contain the following information (FGS for Germany, Chapter 6, C6.3.5.2):

- Name/address of the generating activity;
- Description and hazard class of the hazardous waste;
- Number and types of containers;
- Quantity of hazardous waste;
- Date stored;
- Storage location; and,
- Disposition data (i.e., dates received, sealed, and transported, and transporter used).

A sample log is provided in Appendix 5.

7.2 HAZARDOUS WASTE GENERATORS IDENTIFICATION

Each U.S. Army Garrison - Heidelberg hazardous waste generator has a DoD identification number. These identification numbers are listed in Table A-2.1 and Table A-2.2 in Appendix 2. In addition, an official waste generator number *(Abfallerzeugernummer)* has been assigned to the DoD installation by the competent German authority. This official waste generator number for each U.S. Army Garrison - Heidelberg installation is also listed in Table A-2.1 and Table A-2.2 in Appendix 2. All U.S. Army Garrison - Heidelberg hazardous waste generators use these two numbers for all documentation related to hazardous waste.

7.3 HAZARDOUS WASTE IDENTIFICATION

The U.S. Army Garrison - Heidelberg maintains a Hazardous Waste Profile Sheet (HWPS) for each hazardous waste stream generated. An individual has been designated to ensure that each HWPS is updated, as necessary, to reflect any new waste streams or process modifications that change the character of the hazardous waste being handled. Contact information for this individual is provided in Table 2-2 in Section 2.4.

Prior to disposal, all waste generated is chemically analyzed by the disposal contractor. For all hazardous wastes, the generator assigns a six-digit waste key, as stipulated by the European Waste Catalogue.

7.4 DISPOSAL DOCUMENTATION

The disposal documentation varies depending on the waste category *(Abfallgruppe)* and disposal method. The required documentation includes a proof procedure *(Nachweisverfahren)* or the related simplified procedures, documentation regarding the permissibility of the disposal method, and records of actual waste transactions in proof logs *(Nachweisbücher)* (FGS for Germany, Chapter 6, C6.3.1.5).

7.4.1 Audit Trail

Each hazardous waste generator maintains an audit trail for hazardous waste disposal from the point of generation to ultimate disposal by accompanying documentation *(Begleitscheine)* or acceptance slips *(Übernahmescheine)*. The accompanying documentation is maintained in proof logs *(Nachweisbücher,* see Section 7.4.4 below). Table 2-2 in Section 2.4 provides information on where and by whom the disposal documentation is maintained.

Part of the audit trail are the waste management plan *(Abfallwirtschaftskonzept)* and waste registry *(Abfallbilanz),* as addressed in Section 8 of this plan.

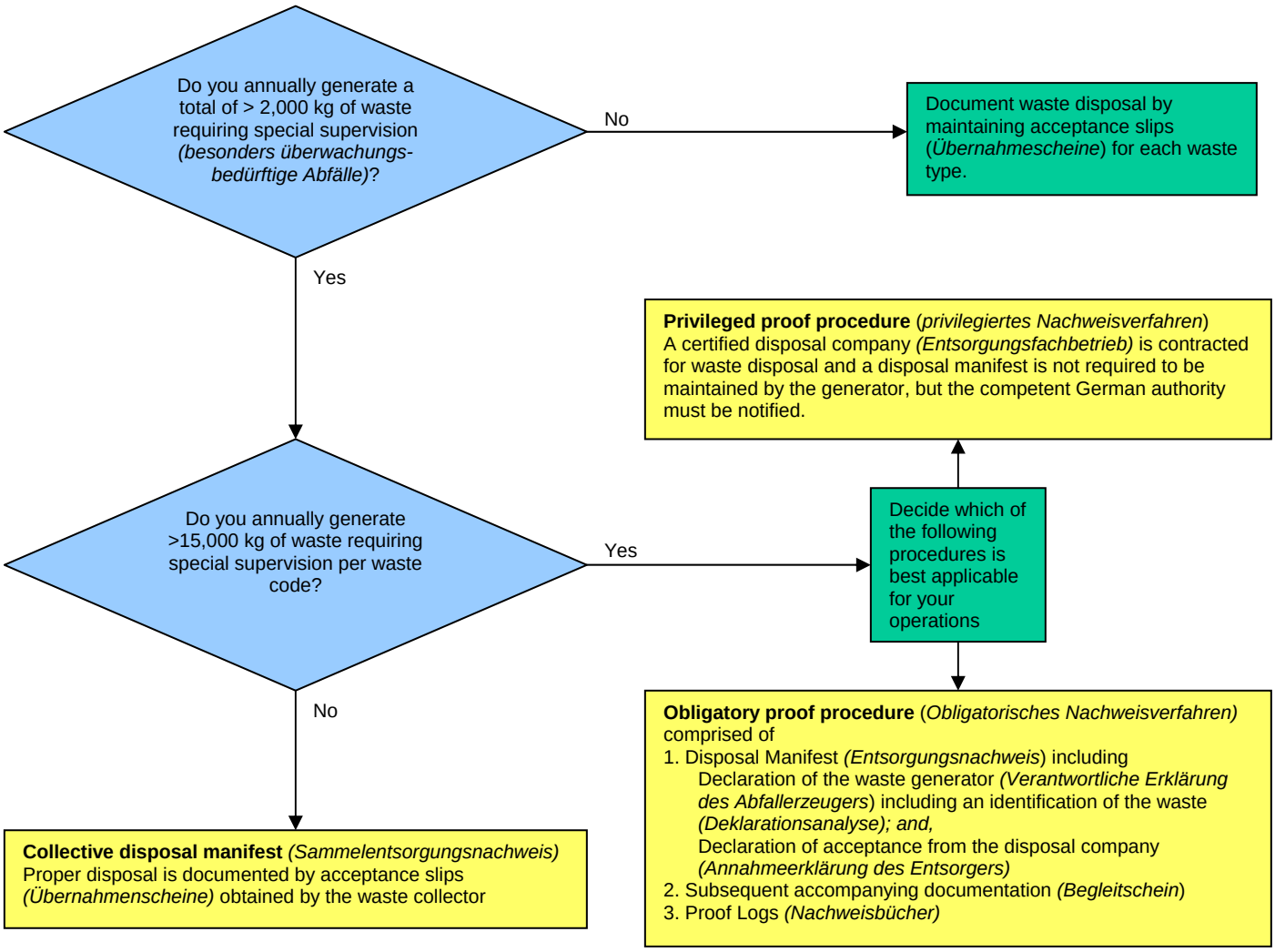
In addition, the following are maintained as an internal audit trail by all generating activities within the Garrison:

- DoD Form DD1348-1A (internal turn-in document); and,
- Signed copy of the disposal documentation.

7.4.2 Proof Procedure *(Nachweisverfahren)*

The proof procedure depends on the type of waste and on the type of disposal. Determine the proof procedure for each waste using Flow Chart 7-1. The proof procedure most commonly used by the U.S. Army Garrison - Heidelberg is the obligatory proof procedure *(obligatorisches Nachweisverfahren)* through disposal manifests *(Entsorgungs- und Verwertungsnachweis)* and acceptance slips *(Übernahmescheine)* and subsequent accompanying documentation *(Begleitscheine)*. Refer to FGS for Germany Chapter 6, Section C6.3.1.5, for the documentation for each proof procedure.

Flow Chart 7-1 Disposal Documentation Procedures for Wastes Requiring Special Supervision



7.4.3 Accompanying Documentation

The U.S. Army Garrison - Heidelberg's accompanying documentation *(Begleitscheine)* and/or acceptance slips *(Übernahmescheine)* contain the following information:

- Name and address of the hazardous waste generator;
- Hazardous waste generator number *(Abfallerzeugernummer)* assigned by the competent German authority to the DoD installation;
- Transporter's name and address;
- Destination name and address;
- Waste key (defined from the European Waste Catalogue) and corresponding name (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste) of the hazardous waste;
- Date of shipment; and
- Date of receipt.

7.4.4 Proof log *(Nachweisbuch)*

Each hazardous waste generator maintains a log for all outgoing hazardous waste with the following contents:

- Accompanying documentation *(Begleitscheine)*;
- Acceptance slips *(Übernahmescheine)*;
- Disposal manifests *(Entsorgungsnachweise)* and/or simplified proof *(vereinfachter Nachweis)*; and
- Corresponding waste characterization *(Deklarationsanalyse)*.

7.5 GARRISON RECORDKEEPING

The U.S. Army Garrison - Heidelberg recordkeeping is summarized in Table 7-1.

Table 7-1. Garrison Recordkeeping

Record	Time Maintained	Location where record is maintained
Hazardous Waste Log	Until closure of the facility	The location where hazardous waste is picked up for off-site shipment (e.g., HWSAs)
Inspection Logs (see Section 3.5)	3 years	Inspection logs for HWSAs are maintained at the ED Inspection logs for HWAPs are maintained at the individual ECO offices
Internal turn-in documents (e.g., DoD Form DD1348-1A, manifests) (see Section 5.1)	3 years	ED and DRMO Kaiserslautern (at Coleman Barracks, Mannheim)
Proof log *(Nachweisbuch)* for outgoing hazardous waste	Proof logs are retained for 3 years after last entry; Waste manifests are maintained for 10 years	ED
Training records	3 years after termination of employment	Originals are maintained at the units and a copy is maintained at the ED

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8 WASTE MANAGEMENT PLAN AND WASTE REGISTRY

The Waste Management Plan and the Waste Registry consist of seven forms that document information related to waste generation and disposal. If required, these forms are prepared prior to 1 April of the next calendar year by the Garrison so that they can be presented to the German authorities upon request.

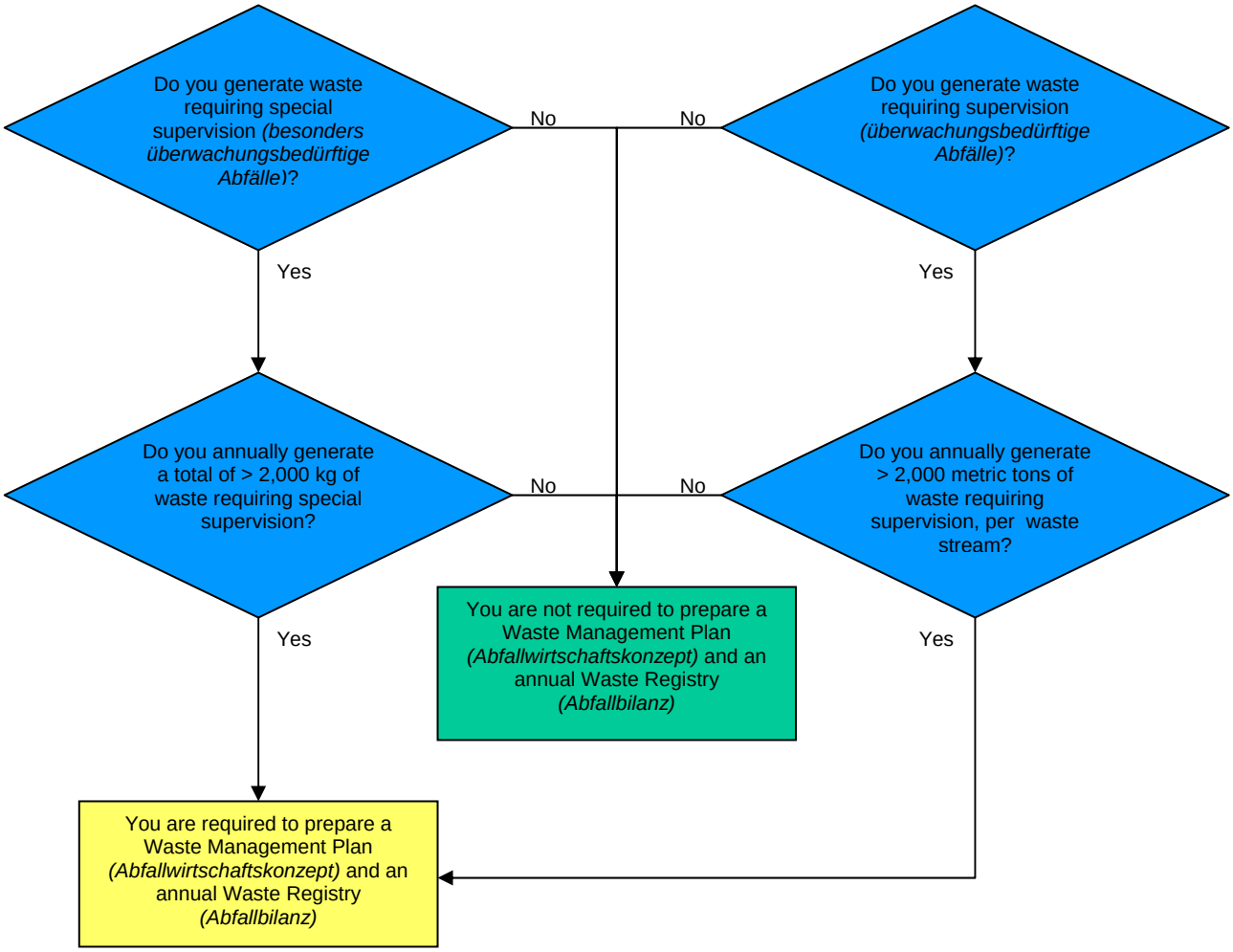
The Garrison evaluates waste generation on an annual basis using Flow Chart 8-1 (see next page) to determine if a Waste Management Plan and Waste Registry are required. The annual determinations are documented in Table 8-1. If prepared, the Waste Management Plan is valid for five years. In that case, the Garrison evaluates only the Waste Registry requirement for the following four years.

Table 8-1. Documentation of the Need for a Waste Management Plan and/or a Waste Registry

Year	Waste Management Plan Required		Waste Registry Required	
	Yes	No	Yes	No
2005	X		X	
2006	X		X	
2007	X		X	
2008	X		X	
2009	X		X	

Information on where and by whom the Waste Management Plan and the Waste Registry are maintained is presented in Table 2-2 in Section 2.4.

Flow Chart 8-1 Determination of the Necessity of a Waste Management Plan and a Waste Registry



9 CONTINGENCY PLANS

The Garrison has developed a Spill Prevention and Response Plan that describes how to respond to spills and releases of hazardous waste (FGS for Germany, Chapter 6, C6.3.6). The plan is reviewed and updated at least every five years or when there are significant changes to operations. The plan elements are predominantly in accordance with the provisions in Chapter 18 of the FGS for Germany (Spill Prevention and Response Planning), as well as Chapters 5 (Hazardous Materials), 6 (Hazardous Wastes), 9 (POL), 11 (Pesticides), and 14 (PCBs). The so-called “Red Plan," which includes immediate spill response procedures, is available in English and German.

The on-site fire department and emergency response teams identified in the plan have been provided with a copy of the contingency plan. Updates will be forwarded to these organizations as appropriate. HWSA and the on-site hospitals must be provided with copies of the contingency plan.

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10 REFERENCES

Act to support recycling and ensure environmentally sound disposal of waste. *Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Beseitigung von Abfällen (Kreislaufwirtschafts- und Abfallgesetz)*. 27 September 1994, last amended in August 2002

Disposal manifest ordinance. *Verordnung über Verwertungs- und Beseitigungsnachweise (Nachweisverordnung)*. 17 June 2002, last amended in August 2002

Ordinance on the European Waste Catalogue. *Verordnung über das Europäische Abfallverzeichnis (Abfallverzeichnisverordnung)*. 10 December 2001, last amended in July 2002

Ordinance on the identification of waste to be recycled that requires supervision. *Verordnung zur Bestimmung von überwachungsbedürftigen Abfällen zur Verwertung (Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung)*. 10 September 1996, last amended in December 2001

Ordinance on waste management plans and waste registries. *Verordnung über Abfallwirtschaftskonzepte und Abfallbilanzen (Abfallwirtschaftskonzept- und –bilanzverordnung)*. 13 September 1996, last amended in June 2002

Ordinance on waste management officers. *Verordnung über BetrieGarrisoneauftragte für Abfall*. 26 October 1977

Waste management plans and waste registries for businesses. *Betriebliche Abfallwirtschaftskonzepte und Abfallbilanzen, Deutscher Industrie- und Handelstag, Bonn*. September 1999

U.S. Department of Defense (DOD). *Final Governing Standards, Germany*, Installation Management Agency, Europe Region Office. 17 December 2002

U.S. Army Garrison - Heidelberg Spill Prevention and Response Plan, March 2004

U.S. Army Garrison - Heidelberg Hazardous Materials Management Plan, March 2000

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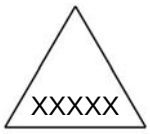
APPENDIX 1

HWSA AND HWAP LOCATIONS AT THE U.S. ARMY GARRISON - HEIDELBERG

Symbols for Hazardous Waste Management Plan Mapping Layer



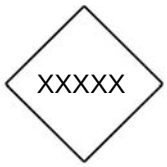
Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map is assigned a number using the following system:

XXXXX = HWAP ID Number.
The Facility number, followed by an alphabetic designation if there is more that one HWAP per building.

Example: 00310 (only one HWAP in Building 310)

00310A (more than one HWAPs in Building 310)



Hazardous Waste Storage Area (HWSA)

Each HWSA on the map is assigned a number using the following system:

XXXXX = HWAP ID Number.
The Facility number, followed by an alphabetic designation if there is more that one HWAP per building.

Example: 04021 (only one HWSA in Building 4021)

004021A (more than one HWSAs in Building 4021)

LIST OF FIGURES

APPENDIX 2

LIST OF HWSAs AND HWAPs IN THE U.S. ARMY GARRISON - HEIDELBERG

Table A-2.1. List of U.S. Army Garrison - Heidelberg Hazardous Waste Accumulation Points (HWAPs)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE30J	7542	Mr. Quick	WK4RXH	H18010580	C
GE30J	7885/ in front of 7857	Mr. Sternberger Mr. Gussow	WK4RXH	H18010580	C
GE30J	7883 (tents)	Mr. Quick	WK4RXH	H18010580	C
GE30J	7901	Mr. Hankins	WK4RXH	H18010580	A
GE30J	7902	Mr. Quick	WK4RXH	H18010580	C
GE30J	7909	Mr. Quick	WK4RXH	H18010580	C
GE30J	7977	Mr. Hankins	WK4RXH	H18010580	B
GE34F	4112	Mr. Yowler	WK4RXH	H18010580	B
GE34G	3613	Ms. Fields	WK4RXH	H18010580	B
GE34G	3615	Ms. Fields	WK4RXH	H18010580	B
GE34J	3962	Mr. Heberling	WK4RXH	H18010580	A
GE34J	3966	Mr. Schreiner	WK4RXH	H18010580	A
GE34J	3968	Mr. Amberger	WK4RXH	H18010580	A
GE34J	3981	Mr. Hertlein	WK4RXH	H18010580	C
GE52L	3744	Dr. Brodie	WK4RXH	H18010580	A
GE654	Behind 4510	CPT Eggers	WK4RXH	H18010580	A
GE654	4539	SGT Jackson	WK4RXH	H18010580	A
GE654	4795	Mr. Reuther	HXGHCG	N/A	A
GE658	Next to 122	SGT Jaramillo	WK4RXH	H18010580	B

Table A-2.1. List of Heidelberg Garrison Hazardous Waste Accumulation Points (HWAPs) (*continued*)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE658	126, along the fence	SGT Jaramillo SGT Garcia	WK4RXH	H18010580	B
GE658	126 North	SGT Garcia	WK4RXH	H18010580	A
GE658	126 South	SGT Jaramillo	WK4RXH	H18010580	C
GE658	173	Mr. Romero	WK4RXH	H18010580	C
GE658	3852	Dr. Brodie	WK4RXH	H18010580	A
GE658	3854	Mr. Romero	WK4RXH	H18010580	B
GE76P	1006	Mr. Reuther	HXGHCG	N/A	A
GE846	4012	SPC Phillips	WK4RXH	H18010580	B
GE846	4013	Mr. Amberger	WK4RXH	H18010580	B
GE846	4218	SGT Delvalle	WK4RXH	H18010580	C
GE846	4226	Mr. Terrell	WK4RXH	H18010580	C
GE846	4228	SGT Kromer	WK4RXH	H18010580	B
GE846	4254	SPC Phillips	WK4RXH	H18010580	C
GE846	4254B	SGT Withers	WK4RXH	H18010580	A
GE846	4267	Mr. Albiez	WK4RXH	H18010580	A
GE654	4505	Mr. Reuther	WK4RXH	H18010580	A
GE34J	3801	Mr. Miller	HXGHCG	N/A	C

Table A-2.2. List of U.S. Army Garrison - Heidelberg Hazardous Waste Storage Areas (HWSAs)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE30J	7542	Mr. Quick	WK4RXH	H18010580	C
GE30J	7902	Mr. Quick	WK4RXH	H18010580	C
GE34J	3994	Mr. Amberger	WK4RXH	H18010580	A
GE846	4024	Mr. Forbes	WK4RXH	H18010580	B
GE654	4500	Mr. Amberger	WK4RXH	H18010580	B
GE35B	242	Mr. Preussler	WK4RXH	H18010580	B
GE658	122	SGT Jaramillo	WK4RXH	H18010580	A

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APPENDIX 3

STATE-SPECIFIC REQUIREMENTS

1. State-Specific Storage Tank Requirements

BADEN-WÜRTTEMBERG

If storage facilities exceed the capacity limits indicated in Table A-3.1, they are not permitted in Water Protection Zone III areas.

Table A-3.1. Capacity Limits of Storage Facilities in Water Protection Zone III in Baden-Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Maximum Capacity
1 (low hazard rating)	No limit provided
2 (medium hazard rating)	100 m^3
3 (high hazard rating)	10 m^3

UST operation is prohibited in the outer water protection zone (Zone III) if the maximum storage quantities indicated in Table A-3.2 are exceeded.

Table A-3.2. Maximum Storage Capacities for USTs in Water Protection Zone III in Baden-Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Volume [m^3]
1	1,000
2	10
3	1

RHEINLAND-PFALZ

Operators must submit a notification to the competent German authority if they plan to operate, significantly modify, or decommission facilities storing water endangering substances. This requirement does not apply to the operation of above-ground storage tanks for gasoline, heating oil, and diesel fuel with a volume less than or equal to 1,000 liters, as long as they are located outside water and mineral spring protection zones.

Heating oil storage tanks in Rheinland-Pfalz with a volume less than 5,000 liters are exempt from the required inspection.

2. State-Specific Determination of Ordinary and Conventional Facilities

Table A-3.3. Determination of Ordinary and Conventional Facilities for Baden-Württemberg und Rheinland-Pfalz

Criterion	Storage Containers are Double-Walled or Single-Walled with Secondary Containment (1)	Comply with Applicable Technical Specifications and Construction Requirements	Equipped with Automatic Leak Detection
Water Hazard Category A Facilities (2)	NA	NA	NA
Water Hazard Category B, C, or D Facilities (2)	X (4)	X	X
Drum Storage Area (3)	X (5)	NA	NA

Notes:

X: If all these requirements are fulfilled, the facility is an ordinary and conventional facility.

(1) Secondary containment must retain the entire volume of the storage container. If there are several containers, then the secondary containment must retain the volume of the largest container, or at least 10 percent of the total storage volume.

(2) See corresponding water hazard category tables for each State (following pages)

(3) Only applicable to Rheinland-Pfalz.

(4) Secondary containment must be liquid-proof.

(5) Secondary containment must meet specific regulatory requirements in Rheinland-Pfalz.

3. State-Specific Requirements of Water Hazard Category Facilities

The following region-specific tables define the Water Hazard Category of Facilities (i.e., categories A to D) based on the Water Hazard Class of the hazardous material stored, and the volume of hazardous material in cubic meters (m^3) or mass in metric tons.

BADEN-WÜRTTEMBERG

Table A-3.4. Definition of Water Hazard Category Facilities in Baden-Württemberg

Volume in m^3 or mass in metric tons	Water Hazard Class			
	0	1	2	3
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category C
between 1.0 and 10	Category A	Category A	Category B	Category D
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1,000	Category A	Category B	Category D	Category D
above 1,000	Category A	Category C	Category D	Category D

RHEINLAND-PFALZ

Table A-3.5. Definition of Water Hazard Category Facilities in Rheinland-Pfalz

Volume in m^3 or mass in metric tons	Water Hazard Class		
	1	2	3
up to 0.1	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category B
between 1.0 and 10	Category A	Category B	Category C
between 10 and 100	Category A	Category C	Category D
between 100 and 1,000	Category B	Category D	Category D
above 1,000	Category C	Category D	Category D

4. State-Specific Tendering

Table A-3.6. State-specific Tendering Requirements

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
Baden-Württemberg	*Sonderabfallagentur Baden-Württemberg GmbH* (SAA)	The generator *(Andienungspflichtige)* of waste requiring special supervision that is to be permanently disposed of *(beseitigen),* must tender *(andienen)* this waste to the central state agency *(Zentrale Stelle für Sonderabfälle),* if this waste is generated, treated, stored, or disposed of in Baden-Württemberg.
		If waste that is to be permanently disposed of is exported outside the European Community, the associated notification *(Notifizierung)* is equivalent to a tendering *(Andienung)*. The central state agency *(Zentrale Stelle für Sonderabfälle)* may require additional information about methodologies of disposal and operation of facilities as well as samples from the waste being disposed.
		The generator of waste requiring special supervision must supply the waste to the facility that is approved by the SAA. This applies if the generator has tendered the wastes to the SAA. If waste must be subjected to physical, chemical, or biological treatment prior to disposal, the generator may propose an appropriate facility to the SAA.
		The generator of waste requiring special supervision that is to be disposed is exempt from the obligation to tender the waste to the SAA in the following cases:

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		• If the total quantity of waste requiring special supervision that is to be disposed of does not exceed 2,000 kg (2 metric tons) or the total quantity of each individual waste type does not exceed 1,000 kg (1 metric ton); however, it must be ensured that the waste contractor responsible for collection or final disposal fulfils the declaration requirements to the SAA. • If the waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis)* by a waste contractor; the notification to the SAA must be made by the waste generator and the appropriate declaration must be provided to the central state agency *(andienungspflichtig)* by the waste contractor. • If waste requiring special supervision is disposed of in a certified facility operated by the waste generator that was in operation prior to 1 January 1996. • If waste requiring special supervision is collected by certified third parties or private waste contractors.
Rheinland-Pfalz	*Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH (SAM)*	The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentrale Stelle für Sonderabfälle)* that is responsible for ensuring the proper disposal of the waste.
		If the generator proposes a contractor for the disposal of waste requiring special supervision, the generator must provide a statement of acceptance *(Annahmeerklärung)* of this contractor to the SAM in addition to the declaration.
		The official Rheinland-Pfalz template must be used for the declaration. The template can be obtained from SAM.

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		If waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis*), the waste carrier is responsible for providing the appropriate declaration to SAM *(andienungspflichtig).*

APPENDIX 4

CLOSURE PLANS

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APPENDIX 5

EXAMPLE INSPECTION CHECKLISTS AND FORMS

Inspection Checklists

Waste Management Plan and Waste Registry Forms

APPENDIX 6

INCOMPATIBLE HAZARDOUS SUBSTANCES

Table A-6.1. Incompatible Chemical Classes

Do not mix substances in hazard classes indicated by an X					
	Flammable	Corrosive	Toxic	Noxious	Reactive
Flammable		**X**	**X**		**X**
Corrosive	**X**	**X** [(1)]	**X**		**X**
Toxic	**X**	**X**			**X**
Noxious					**X**
Reactive	**X**	**X**	**X**	**X**	

[(1)] Do not store acids and bases together.

Some deadly combinations

Acids + Oil or Grease =	FIRE
Acids + Caustics =	HEAT/SPATTERING
Caustics + Epoxies =	EXTREME HEATS
Chlorine Gas + Acetylene =	EXPLOSION
Flammable liquids + Hydrogen Peroxide =	FIRE/EXPLOSION
Aluminum Powder + Ammonium Nitrate =	EXPLOSION
Sodium Cyanide + Sulfuric Acid =	LETHAL HYDROGEN CYANIDE
Ammonia + Bleach =	NOXIOUS FUMES

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APPENDIX 7

HAZARDOUS WASTE MANAGEMENT COMPLIANCE PLAN

Table A-7.1. Hazardous Waste Management Compliance Plan

ARLOC	Facility Number	Deficiency	Compliance Action	Completion Date	Cost Estimate	Project Number	Corresponding Section in HWMP
Garrison-wide	N/A	Hazardous waste training documentation is not maintained at all units.			US$10,000		4
Garrison-wide	N/A	HWAPs & HWSAs lack appropriate labeling with hazard signs.	ED has had signs made and will distribute in FY 05				3.2
Garrison-wide	N/A	All HWSAs lack appropriate alarm systems and are not equipped with means to summon for help in case of an emergency among other deficiencies.	EPRs have been initiated to correct this deficiency		US$ 600,000	ENV062534J ENV062524JE NV062474J	3.3.3
Garrison-wide	N/A	Not all containers are appropriately labeled with the appropriate European Waste Catalogue number and the appropriate hazard sign.					3.1

Table A-7.1. Hazardous Waste Management Compliance Plan

(*continued*)

ARLOC	Facility Number	Deficiency	Compliance Action	Completion Date	Cost Estimate	Project Number	Corresponding Section in HWMP
Garrison-wide	N/A	Multiple containers are used at HWAPs to collect one waste stream (e.g., Patton Barracks, Buildings 122, 126, and 173; Patrick Henry Village, Building 4505; CSC, Bldg. 3801; GAD, Bldg. 7902; Golf Course, Bldg. 4112; Tompkins Barracks, Bldg. 4218).					3.2
Garrison-wide	N/A	The on-site hospital has not been provided with a copy of the Garrison's contingency plan. The contingency plan is not maintained at HWSAs.					9

APPENDIX 8

FGS CHAPTERS 5, 6, 7, AND 9

Chapters 5, 6, 7, and 9 of the German FGS (dated January 2003) are provided as Adobe Acrobat (pdf) files on the CD-Rom submitted with this management plan. Other FGS Chapters can be downloaded from DENIX at https://www.denix.osd.mil/denix/DOD/Legislation/legislation.html

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